



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

647.3914
Job Sheet 171198



Part No: 647.3914

Job Qty: 10 ea

Part Name: Breakaway Tip, Long



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 1/30/18

Job Tracking No:

Due Date: 2/28/18

Created By: Michelle Gagnon-Donovan

Type: Stock

Description:

Note: DWG REV C2 SHEETS 1,4,9 IPP REV. A NEW ISSUE JFS 14/06/19 VERIFIED BY: DD

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup hrs	Run Hrs	Workcenter / Supplier	Lead Time	
90	Start up Operation	10 Ea		2/27/18	0.00	0.00	Start Up Machining-1		KT 2018-08-26
100	Bandsaw	10 pcs		2/27/18	0.00	8.19	Bandsaw1		KT 2018-08-26
110	CNC Vertical Machining	10 pcs		2/28/18	0.19	8.19	HAAS1-5		KT 2018-08-26
120	QC	10 pcs		2/28/18	0.00	0.00	QC2 Machining-1		KT 2018-08-26
130	QC	10 pcs		2/28/18	0.00	0.00	QC8 Machining-1		KT 2018-08-26
140	Outsource	10 pcs		2/28/18	0.00	0.00	Outsource4		KT 2018-08-26
150	Packaging	10 pcs		2/28/18	0.00	0.00	Packaging2		SEP 14 2018
155	QC	10 pcs		2/28/18	0.00	0.00	QC5		SEP 14 2018
180	Packaging	10 pcs		2/28/18	0.00	0.00	Packaging3-1		SEP 14 2018
190	QC21-SA	10 Ea		2/28/18	0.00	0.00	QC21		SEP 14 2018

Part Op 100 - Cut Blank at 14.500"

Descriptions: 110 - 1-Machine per folio FB315

140 - Issue P/O to ATG : 100-10549

180 - ***IDENTIFY AS PER APICAL MPP-120 BY STAMPING P# AND REV***

5066611

DAS
21
9-89

SEP 14 2018

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
M7075T6B2.000X00.750	7075-T6 Bar 2.000" X 0.750"	12.0900 ft (1.209 ea)	90-Start up Operation	

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
90-Start up Operation	M7075T6B2.000X00.750	12	3	0



Container No: S105253



Part: 647.3914

Job No: 171198

Serial No/Batch: S105253

Revision:

Inspector:

Exp Date:

Instructions:

Date: 08/26/18

1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
CANADA
TEL: 1 613 632-5200
Email: sales@dartaero.com
www.dartaerospace.com

Part Specifications					
Spec No	Description	Target/Tolerance	Limits	Type	Special Comments
1	Breakaway Tip Long	0.189inches + 0.005 - 0.001	0.194 0.188	diameter	
2	Breakaway Tip Long	0.194inches + 0.005 - 0.001	0.199 0.193	diameter	
3	Breakaway Tip Long	8.611inches ± 0.005	8.616 8.606		
4	Breakaway Tip Long	7.876inches ± 0.005	7.881 7.871		
5	Breakaway Tip Long	1.224inches ± 0.005	1.229 1.219		
6	Breakaway Tip Long	0.252inches ± 0.005	0.257 0.247		
7	Breakaway Tip Long	42.830degrees ± 0.500	43.330 42.330	angle	
8	Breakaway Tip Long	37.100degrees ± 0.500	37.600 36.600	angle	
9	Breakaway Tip Long	0.533inches ± 0.005	0.538 0.528		
10	Breakaway Tip Long	0.560inches ± 0.005	0.565 0.555		
11	Breakaway Tip Long	0.362inches + 0.002 - 0.000	0.364 0.362		
12	Breakaway Tip Long	0.910inches ± 0.005	0.915 0.905		
13	Breakaway Tip Long	0.063inches ± 0.005	0.068 0.058	Radius	
14	Breakaway Tip Long	8.618inches ± 0.005	8.623 8.613		
15	Breakaway Tip Long	0.740inches ± 0.005	0.745 0.735		
16	Breakaway Tip Long	0.306inches ± 0.005	0.311 0.301		
17	Breakaway Tip Long	2.306inches ± 0.005	2.311 2.301		
18	Breakaway Tip Long	1.556inches ± 0.005	1.561 1.551		
19	Breakaway Tip Long	0.418inches ± 0.005	0.423 0.413		
20	Breakaway Tip Long	0.175inches ± 0.005	0.180 0.170		
21	Breakaway Tip Long	45.000degrees ± 0.500	45.500 44.500	angle	

Plex 1/31/18 9:49 AM Dart.Gagnon.Michelle

DQA: _____ Date: _____

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No.		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐							
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval				
Description Work Order Deviation				Disposition							
Root Cause		FAULT CATEGORY									
Environment	☐	No Re-verification	☐	Pressure/Forced	☐	Temperature/Cure	☐	Power Loss/Surge	☐	Positioned Wrong	☐
Design	☐	Operator	☐	Bending	☐	Set-up	☐	Folio/Program	☐	Outside Dimensions	☐
Doc/Data	☐	Offset/Setup	☐	Centre Not Concentric	☐	BOM/Route	☐	Grain	☐	Over/Under tolerance	☐
Equip/Tooling	☐	Supplier	☐	Cracks	☐	Broken/Damage/Defect	☐	Weld	☐	Part Incorrect	☐
Handling/Pre	☐	Training	☐	Crimp/Kink/Ripple/Wave	☐	Inspection Incomplete/Unqualified	☐	Wrong Stock Pulled	☐	Part Lost/Missing	☐
Material	☐	Use for Testing	☐	Cuffs	☐	Contamination	☐	Out of Sequence	☐	Part Moved	☐
Internal Transport	☐	Poor Information	☐	Crushing	☐	Countersink	☐	Off-set	☐	Drawing	☐
Tribal Knowledge	☐	Rushing	☐	Heat Treat	☐	Cut Too Short	☐	Mislabeled	☐	Finish	☐
LOA	☐	Product Improvement	☐	Wave/Twist in Tube	☐	Instructions Incomplete/Unclear	☐	Fit/Function	☐	Misread	☐
Substation	☐	Process Improvement	☐	Marks/Chatter	☐	Drill Holes	☐	Misaligned/off center	☐	Turning Sequence	☐
Past Expiry Date	☐	Manufacturing Process	☐	OTHER :							
Misidentified	☐	Past Due	☐								

DART AEROSPACE APICAL INDUSTRIES, INC. dba DART AEROSPACE	ENGINEERING CHANGE NOTICE NO. 04948				SHEET 1 OF 2	
	DWG NO. 647.3900		REV: C	PREPARED BY: M. ANDECK	DATE: 05/04/15	EFFECT ON DWG ☐ INC. ☒ UNINC.
	DWG TITLE: DEFLECTORS					
	APPROVED BY: ENGR <i>[Signature]</i>	MFG <i>[Signature]</i>	QC <i>[Signature]</i>	EFF: CURRENT ORDER		
TRANSACTION CODES (TC): A-ADD C-CREATE R-REVISE D-DELETE	REASON: REVISED TOLERANCE AND NOTES				ECR: D-15-01	

SHOP COPY
 RETURN TO
 ENGINEERING
 UNCONTROLLED COPY
 SUBJECT TO AMENDMENT
 WITHOUT NOTICE
 WORK ORDER
 NO. 171198 *[Signature]*

JAN 31 2018

NOTES:

- 1 MATERIAL: ALUMINUM 7075-T651 PER AMS-QQ-A-250/12.
- 2 FINISH: HARD ANODIZE IAW MIL-A-8625 TYPE III, CLASS 2, COLOR BLACK;
3. DEBURR AND BREAK ALL SHARP EDGES.
4. IDENTIFY IAW MPP-120.
- 5 APPLY F/N 3 AS REQUIRED TO ALL FAYING SURFACES OF F/N 6, 7 & 8 UPON ASSY.
- 6 MAXIMUM OR MINIMUM DIMENSION AFTER FINISH.
7. .0625 HOLE MAY BE ADDED FOR FINISHING PURPOSES
- 8 FINISH: PRETREAT PR-148 ADHESION PROMOTER, PRIME IAW MIL-P-23377J, TYPE I, CLASS N; 1-2 MIL MAX. APPLY FINISH AFTER ASSEMBLY.
- 9 FINISH: PRETREAT PR-148 ADHESION PROMOTER, PRIME IAW MIL-P-23377J, TYPE I, CLASS N; 1-2 MIL MAX.
- 10 MATERIAL: ALUMINUM 2024-T3 PER AMS-QQ-A-250/4.

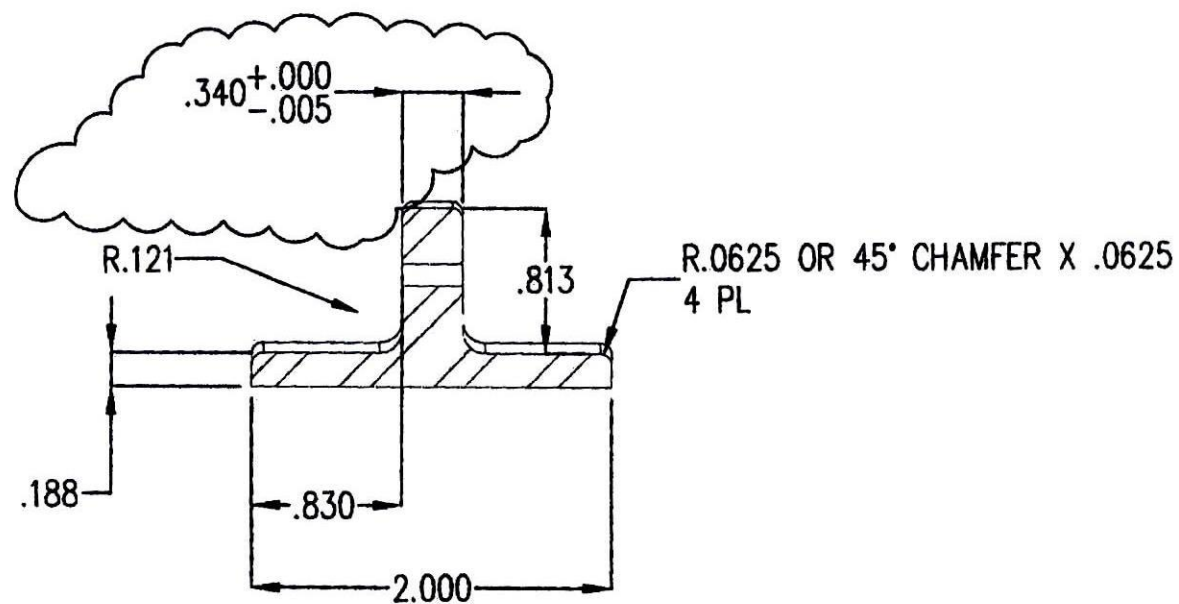
SHEET 1, ZONE B1 IS:

11	R	647.3917	2			DOUBLER		
F/N TC	PART NUMBER	.3903	.3902	.3901		DESCRIPTION	MATERIAL	SPECIFICATION
		QTY						

DOCUMENTS EFFECTED: ☐ PATTERN ☐ MDL ☐ INSTALL INSTRU ☐ ICA ☒ BOM

CHANGE CATEGORY: ☐ MAJOR ☒ MINOR

DER REVIEW REQUIRED: ☐ YES ☒ NO

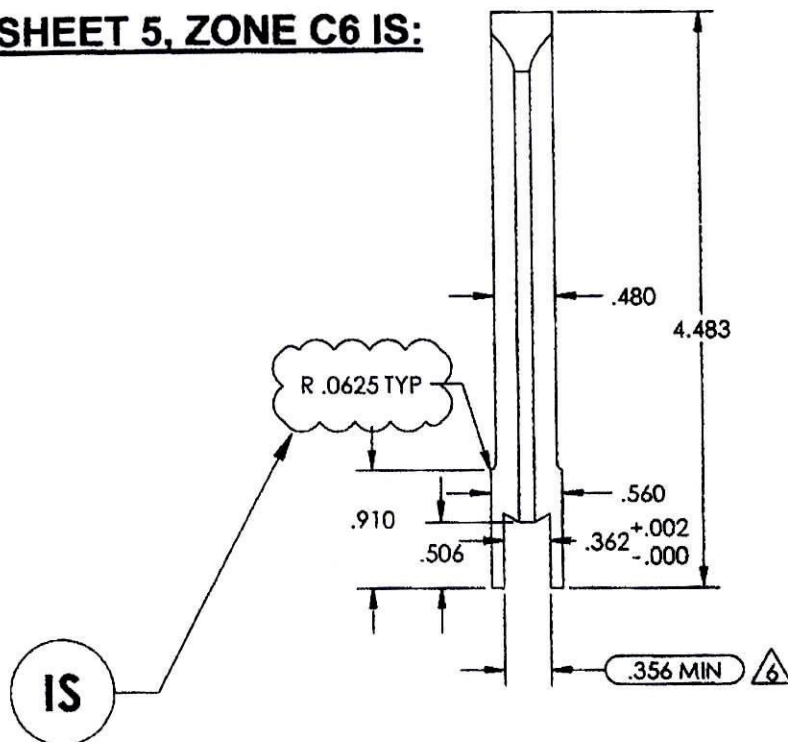


SECTION AT-AT

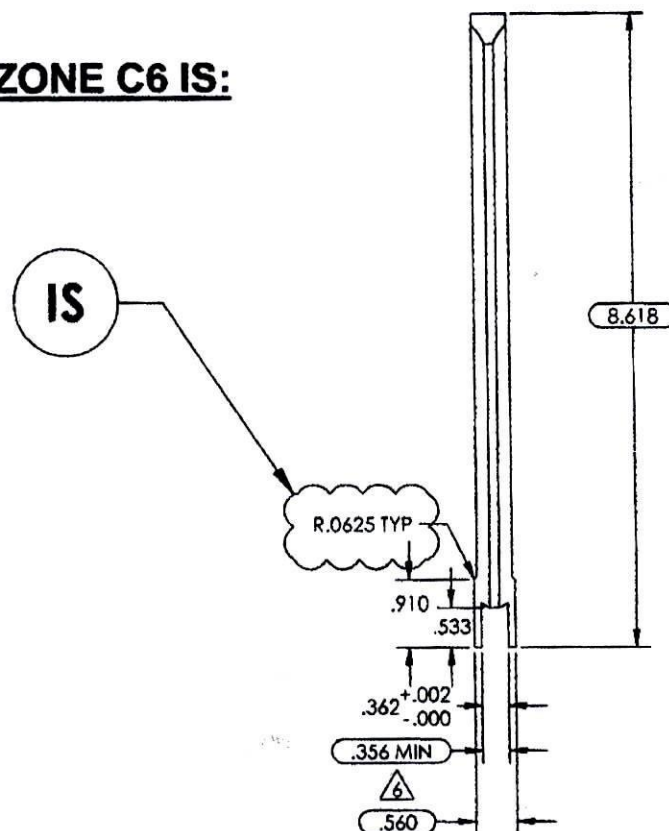
SHEET 11, ZONE C1 IS:

APICAL INDUSTRIES, INC.	ENGINEERING CHANGE NOTICE NO. 04556		SHEET 1 OF 2	
	DWG NO. 647.3900	REV: C	PREPARED BY D. MEJIA	DATE: 06/10/2014
	EFFECT ON DWG ☐ INC. ☒ UNINC.			
	DWG TITLE: DEFLECTORS			
APPROVED BY: ENGR <i>[Signature]</i>		MFG <i>[Signature]</i>	QC <i>[Signature]</i>	EFF. NEXT ORDER
REASON: CHANGED P/N, DIMENSIONS & REVISED BOM				ECR: D-14-04
TRANSACTION CODES (TC): A-ADD C-CREATE R-REVISE D-DELETE				

SHEET 5, ZONE C6 IS:

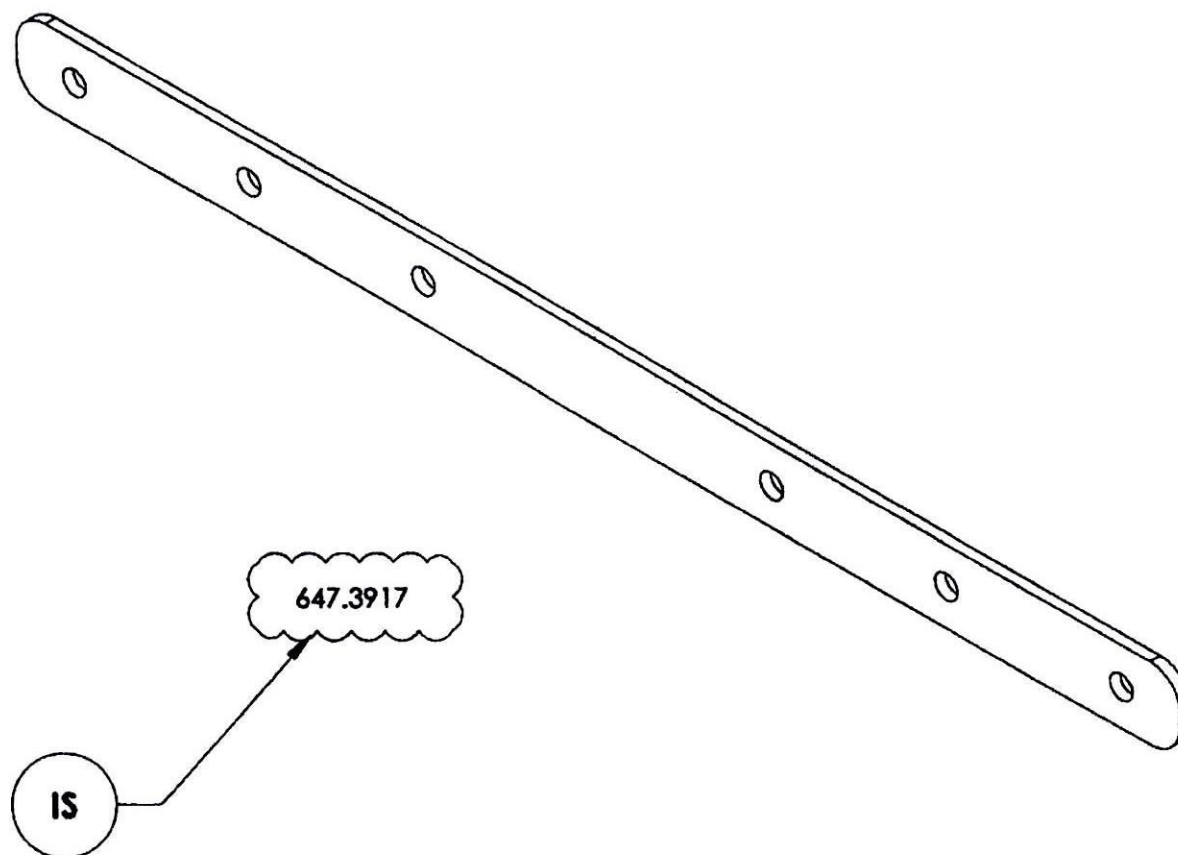


SHEET 6, ZONE C6 IS:



SHEET 1, BOM IS:

11	R	647.3917	2		DOUBLER		
F/N TC	PART NUMBER	3903	3902	3901	DESCRIPTION	MATERIAL	SPECIFICATION
		QTY					
DOCUMENTS EFFECTED:						CHANGE CATEGORY	DER REVIEW REQUIRED
☐ MDL ☐ INSTALL INSTRUCTIONS ☐ ICA ☐ FMS ☒ BOM						☐ MAJOR ☒ MINOR	☐ YES ☒ NO

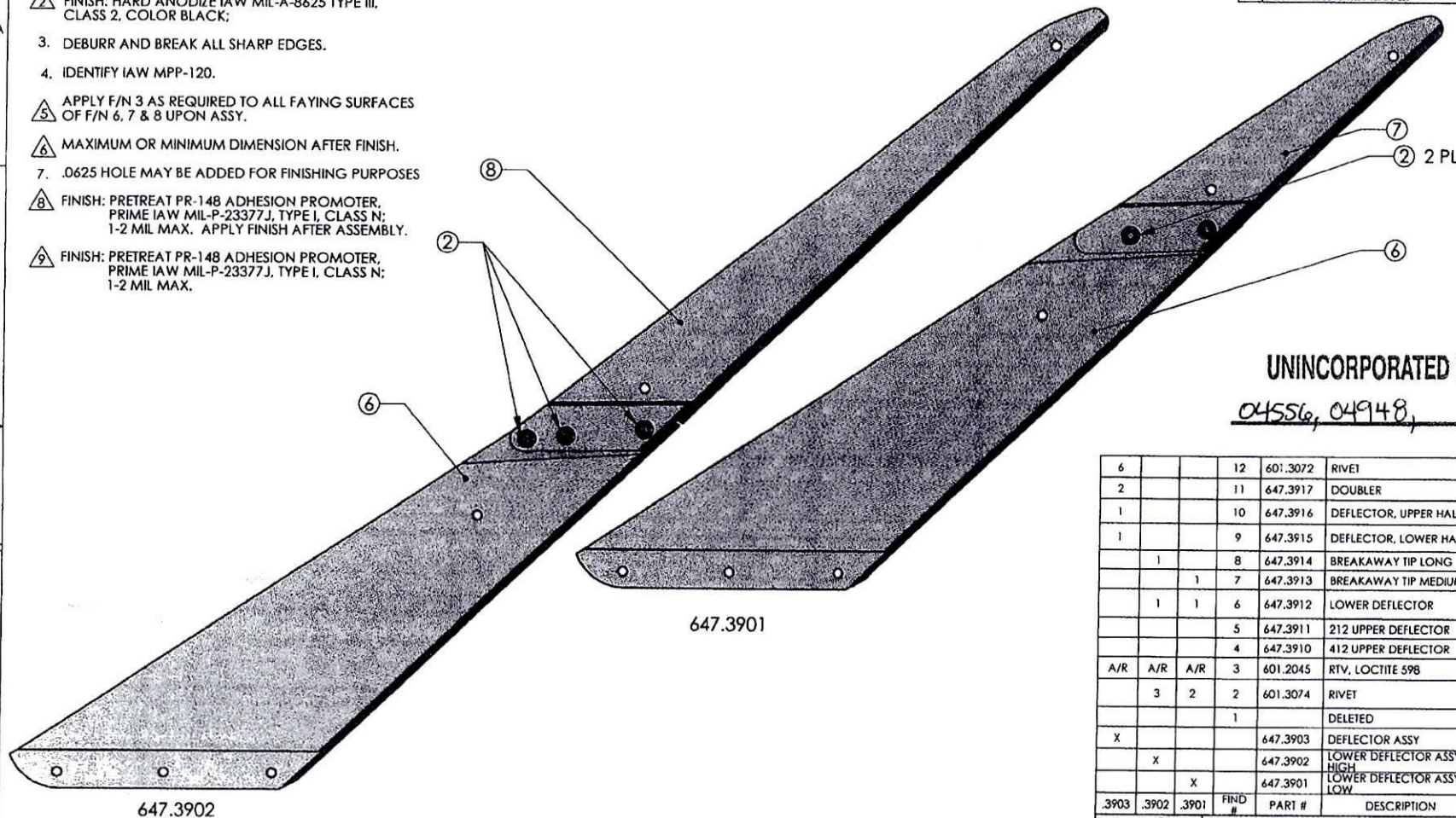
SHEET 12, ZONE B5 IS:

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NOTES:

1. MATERIAL: ALUMINUM 7075-T651 PER AMS-QQ-A-250/12.
2. FINISH: HARD ANODIZE IAW MIL-A-8625 TYPE III, CLASS 2, COLOR BLACK;
3. DEBURR AND BREAK ALL SHARP EDGES.
4. IDENTIFY IAW MPP-120.
5. APPLY F/N 3 AS REQUIRED TO ALL FAYING SURFACES OF F/N 6, 7 & 8 UPON ASSY.
6. MAXIMUM OR MINIMUM DIMENSION AFTER FINISH.
7. .0625 HOLE MAY BE ADDED FOR FINISHING PURPOSES
8. FINISH: PRETREAT PR-148 ADHESION PROMOTER, PRIME IAW MIL-P-23377J, TYPE I, CLASS N; 1-2 MIL MAX. APPLY FINISH AFTER ASSEMBLY.
9. FINISH: PRETREAT PR-148 ADHESION PROMOTER, PRIME IAW MIL-P-23377J, TYPE I, CLASS N; 1-2 MIL MAX.

REV.	DESCRIPTION	DATE	APPROVED
	LAST PROTOTYPE RELEASE: P#1		N/C
N/C	INITIAL RELEASE	09/16/09	P. BRAVO
A	INCORPORATED ECH 02864, 03339 & 03875	07/24/12	P. BRAVO
B	INCORPORATED ECH 04025	08/02/13	P. BRAVO
C	INCORPORATED ECH 04038, 04065 & 04250	11/16/13	P. BRAVO

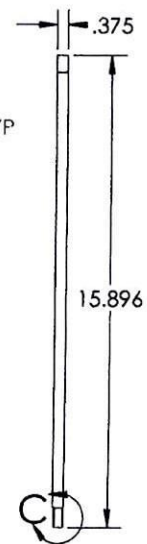
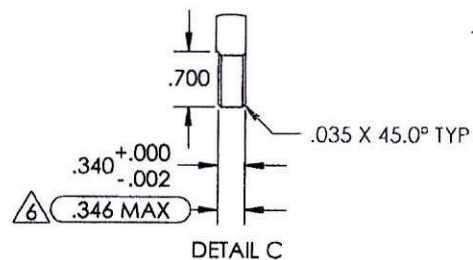
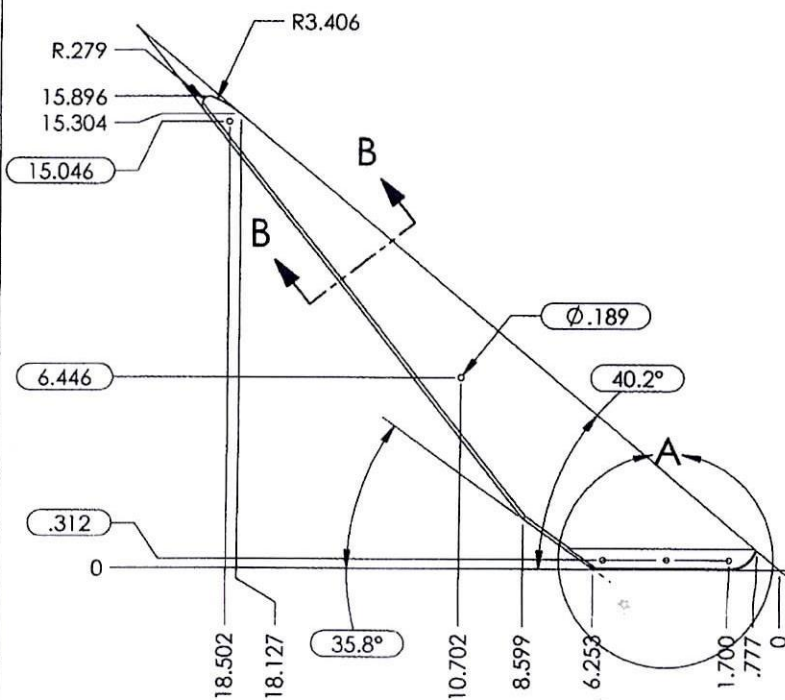
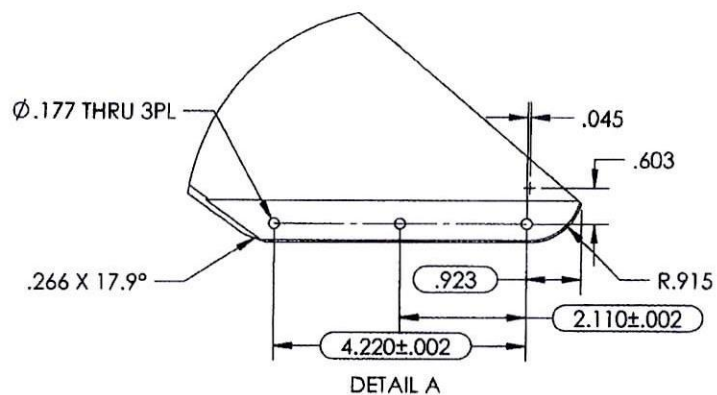
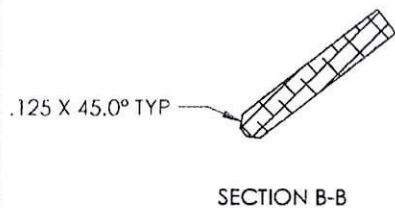


UNINCORPORATED ECN(s)

04556, 04948,

6			12	601.3072	RIVET	CR3213-6-9	
2			11	647.3917	DOUBLER		
1			10	647.3916	DEFLECTOR, UPPER HALF	△	△
1			9	647.3915	DEFLECTOR, LOWER HALF	△	△
	1		8	647.3914	BREAKAWAY TIP LONG	△	△△
		1	7	647.3913	BREAKAWAY TIP MEDIUM	△	△△
	1	1	6	647.3912	LOWER DEFLECTOR	△	△△
			5	647.3911	212 UPPER DEFLECTOR	△	△△
			4	647.3910	412 UPPER DEFLECTOR	△	△△
A/R	A/R	A/R	3	601.2045	RTV, LOCTITE 598		△
	3	2	2	601.3074	RIVET	MS20470AD 6-12	
			1		DELETED		
X				647.3903	DEFLECTOR ASSY		△
	X			647.3902	LOWER DEFLECTOR ASSY HIGH		
		X		647.3901	LOWER DEFLECTOR ASSY LOW		
.3903	.3902	.3901	FIND #	PART #	DESCRIPTION	MATL	SPEC
QTY							
NEXT ASSY (S)				ORIGINAL DATE			
647.3800				09-10-09			
				DRAWN BY			
				D.BARKER			
				DRAWING APPROVAL			
				P. BRAVO			
				09-10-09			
				CONTRACT NO.			
				UNLESS OTHERWISE SPECIFIED			
				DIMENSIONS ARE IN INCHES			
				TOLERANCES ARE:			
				SPACES DECIMALS ±.01			
				3 PLACE DECIMALS ±.005			
				ANGLES ±.5°			
				APICAL INDUSTRIES			
				2608 TEMPLE HEIGHTS DR.			
				OCEANSIDE, CA. 92056-3512 (760)724-5300			
				DEFLECTORS			
				SHEET 07M26			
				DWG. NO. 647.3900			
				SCALE NONE			
				REV. C			
				SHEET 1 OF 12			

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647.3911

ORIGINAL DATE (DD-MM-YY) 05-10-07 DRAWN BY D.SCHUB CHECKED BY D.BARKER DRAWING APPROVAL P. BRADY 02-10-07 CONTRACT NO.		APICAL INDUSTRIES 2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760)724-5300	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS ±.01 3 PLACE DECIMALS ±.005 ANGLES ± .5°		SHEET B	DWG. NO. 647.3900 REV. C
SCALE NONE		SHEET 2 OF 12	

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THE WRITTEN PERMISSION OF APICAL INDUSTRIES IS PROHIBITED.

.125 X 44.9°

SECTION E-E

.274 X 17.9°

Ø.177 THRU 3PL

.120

.788

2.110±.002

R1.100

.886

DETAIL D

647.3910

10.850

.700

.030 X 45.0° TYP

.340^{+.000}
-.002

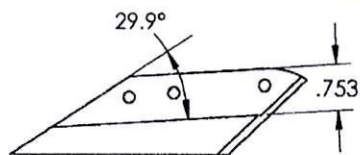
6 .346 MAX

DETAIL F

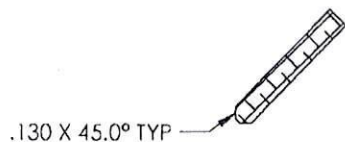


ORIGINAL DATE: 08-10-09		APICAL INDUSTRIES	
DRAWN BY: CHICKER		2608 TEMPLE HEIGHTS DR.	
DESIGNED BY: BAFFER		OCEANSIDE, CA. 92056-3512 (760)724-5300	
DRAWING APPROVAL: P. BRAVO		DEFLECTORS	
CONTRACT NO.		REV. C	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 3 PLACE DECIMALS ±.01 ANGLES 9°		SER: 07MAL6	DWG. NO. 647.3900
SCALE: NONE		SHEET 3 OF 12	

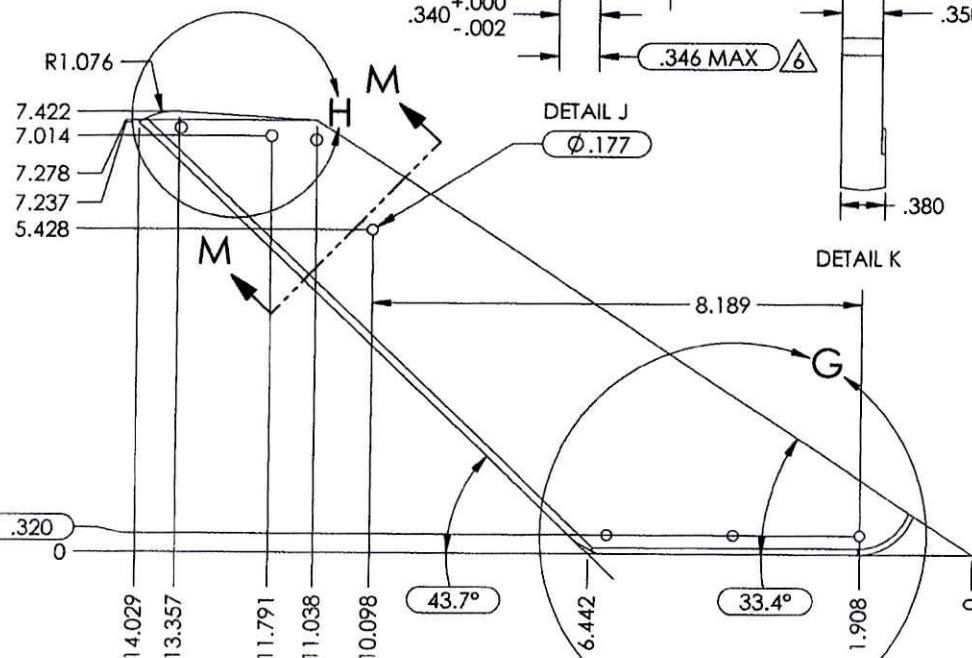
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SECTION L-L



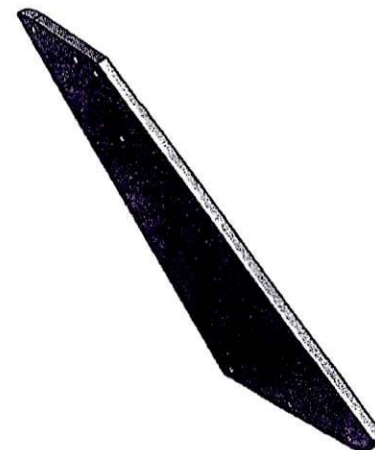
SECTION M-M



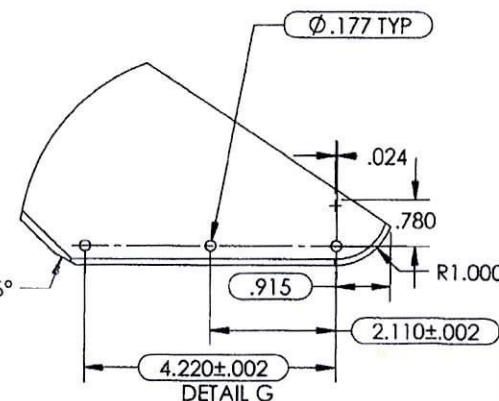
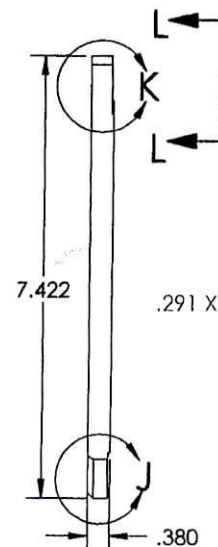
DETAIL J
Ø.177

DETAIL K

DETAIL H



647.3912

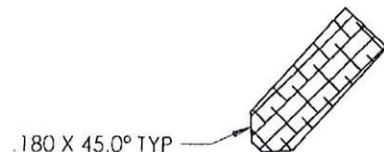


ORIGINAL DATE INCHES-10	09-10-09	APICAL INDUSTRIES 2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760)724-5300	
DRAWN BY GUSCHUP	CHECKER D. BARKER		
DRAWING APPROVAL P. BRAVO	09-10-09		
CONTRACT NO.		DEFLECTORS	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS ±.01 3 PLACE DECIMALS ±.005 ANGLES ±.5°			
REV	CAGE CODE	DWG. NO.	REV.
B	07M26	647.3900	C
SCALE NONE		SHEET 4 OF 12	

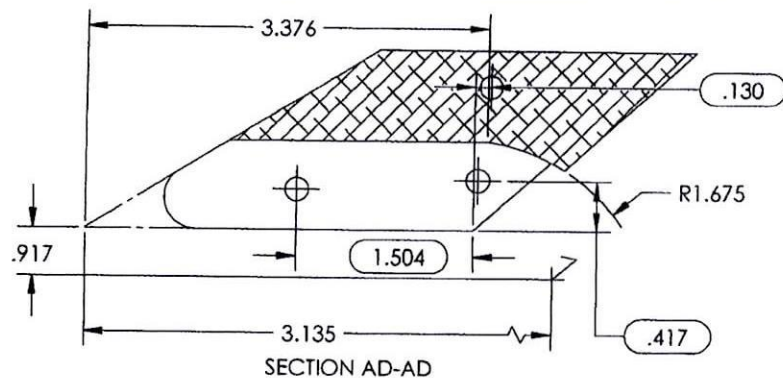
APICAL INDUSTRIES
2508 TEMPLE HEIGHTS DR.
OCEANSIDE, CA. 92056-3512 (760)724-5300

DEFLECTORS

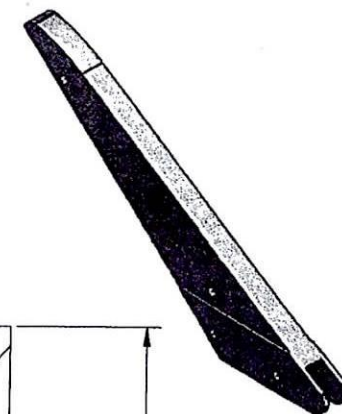
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF APICAL INDUSTRIES. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF APICAL INDUSTRIES IS PROHIBITED.



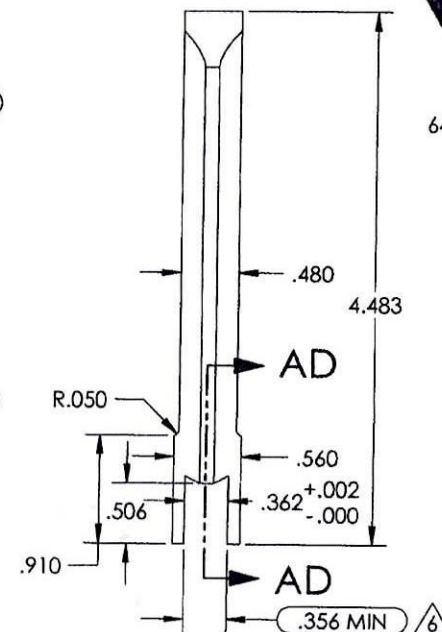
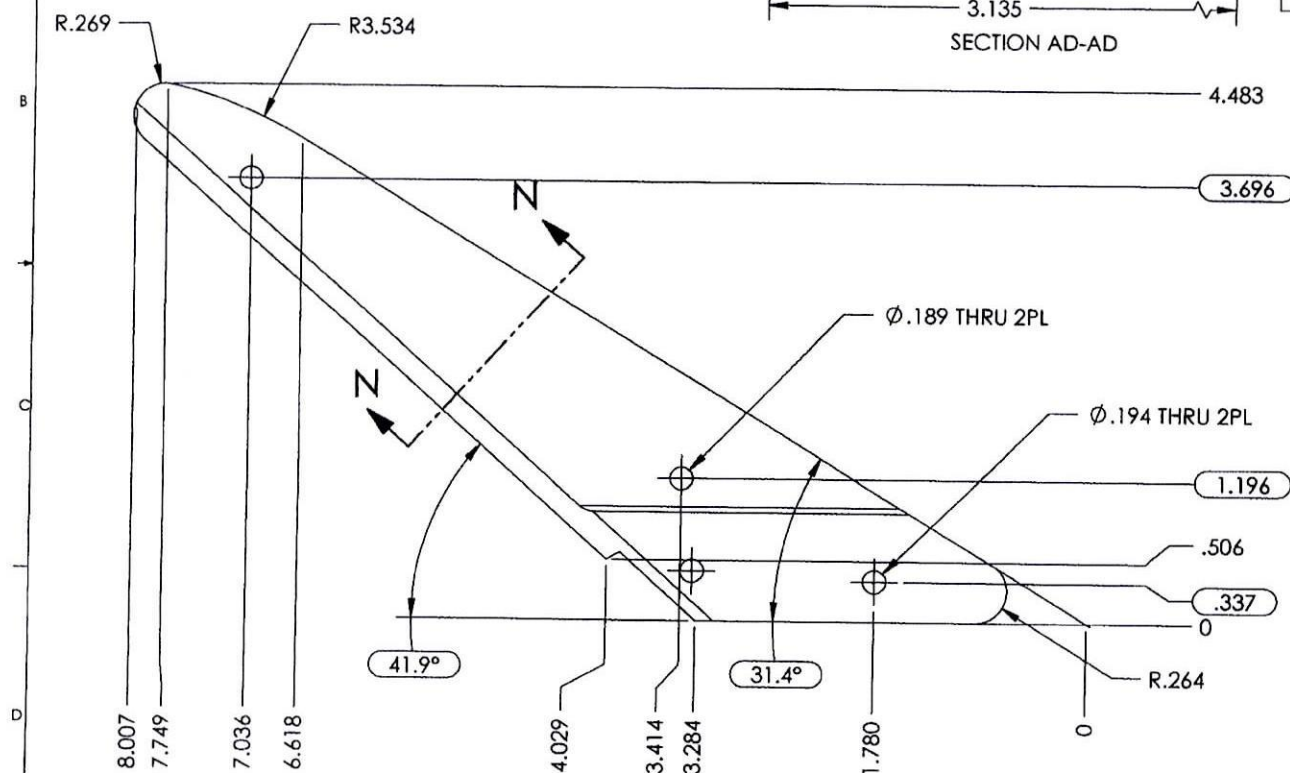
SECTION N-N



SECTION AD-AD



647.3913



ORIGINAL DATE: 09-10-09
 DRAWN BY: D.SCHUR
 CHECKED BY: D.BARBER
 DRAWING APPROVAL: P. BRAY
 CONTRACT NO.

UNLESS OTHERWISE SPECIFIED
 DIMENSIONS ARE IN INCHES
 TOLERANCES ARE:
 3 PLACE DECIMALS ±.001
 3 PLACE DECIMALS ±.005
 ANGLES ± .5°

APICAL INDUSTRIES
 2608 TEMPLE HEIGHTS DR.
 OCEANSIDE, CA. 92056-3512 (760)724-5300

DEFLECTORS

REV	DATE	BY	DESCRIPTION
B	07/12/06	DWG. NO.	647.3900
C		SCALE	NONE

SHEET 5 OF 12

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SECTION T-T

.175 X 45.0° TYP

SECTION AB-AB

647.3914

DEFLECTORS

APICAL INDUSTRIES
2608 TEMPLE HEIGHTS DR.
OCEANSIDE, CA. 92056-3512 (760)724-5300

ORIGINAL DATE: 09-10-09
DRAWN BY: JCH/CEER
D.SCHUR
DESIGNED BY: JCH/CEER
APPROVED BY: JCH/CEER
CONTRACTING

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ARE:
2 PLACE DECIMALS ±.01
3 PLACE DECIMALS ±.005
ANGLES ± .5°

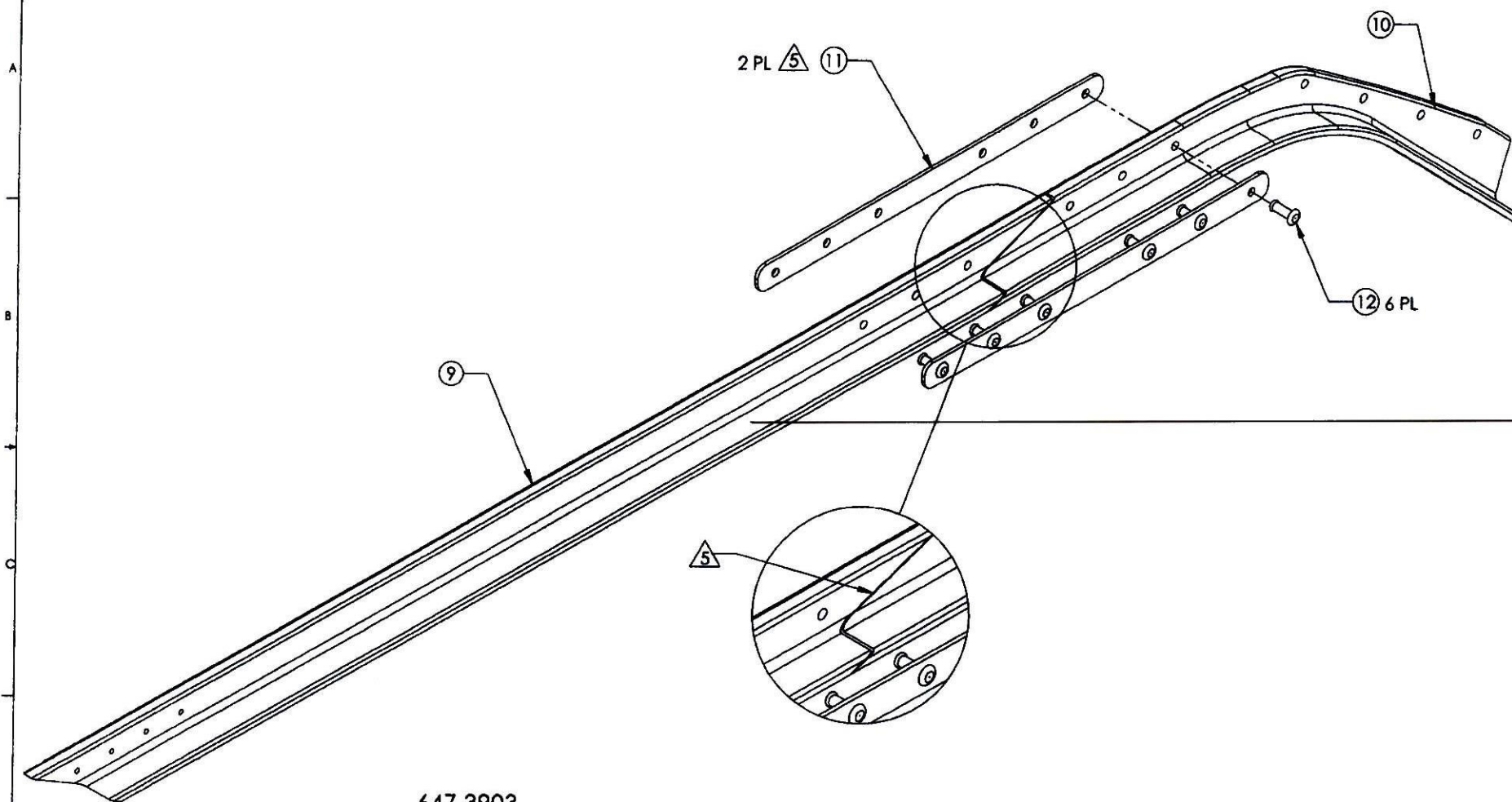
SHEET 6 OF 12

The drawing includes the following details:

- Side View:** Shows a deflector with a top radius of R.267, a base radius of R3.354, and a total height of 8.611. A hole is located at a distance of 7.876 from the left edge. The deflector is shown in two positions, labeled 'T'.
- SECTION T-T:** A cross-section of the deflector showing a thickness of .175 and a 45.0° angle.
- SECTION AB-AB:** A cross-section of the deflector showing a top width of 3.072, a base width of 3.068, and a height of .740. It includes a hole with a diameter of .306 and a distance of 1.556 from the left edge. The bottom edge has a radius of R1.671 and a distance of .418 from the right edge. The bottom edge also has a distance of .931 from the right edge.
- Detail View:** Shows a detail of the deflector with a top radius of R.050 TYP, a base radius of R.255, and a total height of .910. It includes a hole with a diameter of .362 and a distance of .533 from the left edge. The bottom edge has a distance of .356 MIN from the left edge and a distance of .560 from the right edge. The bottom edge also has a distance of .824 from the right edge.
- Assembly View:** Shows the deflector assembly with a total height of 8.618. It includes a hole with a diameter of .189 THRU 2PL and a hole with a diameter of .194 THRU 3PL. The bottom edge has a distance of 1.224 from the left edge, a distance of .533 from the left edge, and a distance of .252 from the left edge. The bottom edge also has a distance of 0 from the left edge. The bottom edge has a distance of 12.148 from the left edge, a distance of 11.192 from the left edge, and a distance of 10.597 from the left edge. The bottom edge has a distance of 3.875 from the left edge, a distance of 3.129 from the left edge, and a distance of 3.123 from the left edge. The bottom edge has a distance of .824 from the left edge. The bottom edge has a distance of 0 from the left edge. The bottom edge has a distance of 42.83° from the left edge and a distance of 37.1° from the left edge.

ORIGINAL DATE (MCA-DA-12) 09-10-09	APICAL INDUSTRIES		
DRAWN BY D.SCHUP	2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA 92056-3512 (760)724-5300		
DRAWING APPROVAL P. RAYO			
DATE 09-10-09			
CONTRACT NO.			
DEFLECTORS			
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES			
10 PLACES ARE 101			
2 PLACES CEANALIS 201			
3 PLACES CEANALIS 201S			
AS NOTED			
SIZE	CAGE CODE 07M36	DWG. NO. 647.3900	REV C
SCALE NONE		SHEET 6 OF 12	

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647.3903

ORIGINAL DATE REVISED DATE DRAWN BY CHECKED BY DRAWING APPROVAL BY CONTRACT NO.		APICAL INDUSTRIES 2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760)724-5300	
NUMBER OF SHEETS SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS ±.01 3 PLACE DECIMALS ±.005 ANGLES ±.5°		SHEET B	CAGE CODE D7MA26
		DWG. NO. 647.3900	REV. C
		SCALE NONE	SHEET 7 OF 12

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Dimensions and Tolerances:

- Overall Length: $42.760^{+.010}_{-.000}$
- Overall Width: $6.480^{+.010}_{-.000}$
- Radius: 9.000
- Vertical Dimensions (from top): 0 , $.171$, $.271$, $.646$, 1.000 , 2.699 , 4.389 , 5.054 , 6.480
- Horizontal Dimensions (from left): 0 , 1.732 , 33.205 , 37.040 , 42.040 , 42.171 , 42.784

APICAL INDUSTRIES
2608 TEMPLE HEIGHTS DR.
OCEANSIDE, CA. 92056-3512 (760)724-5300

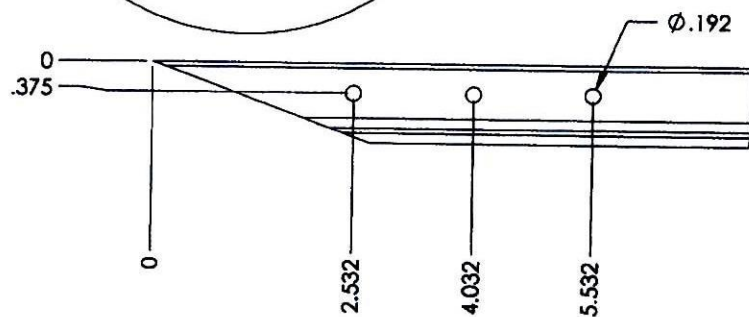
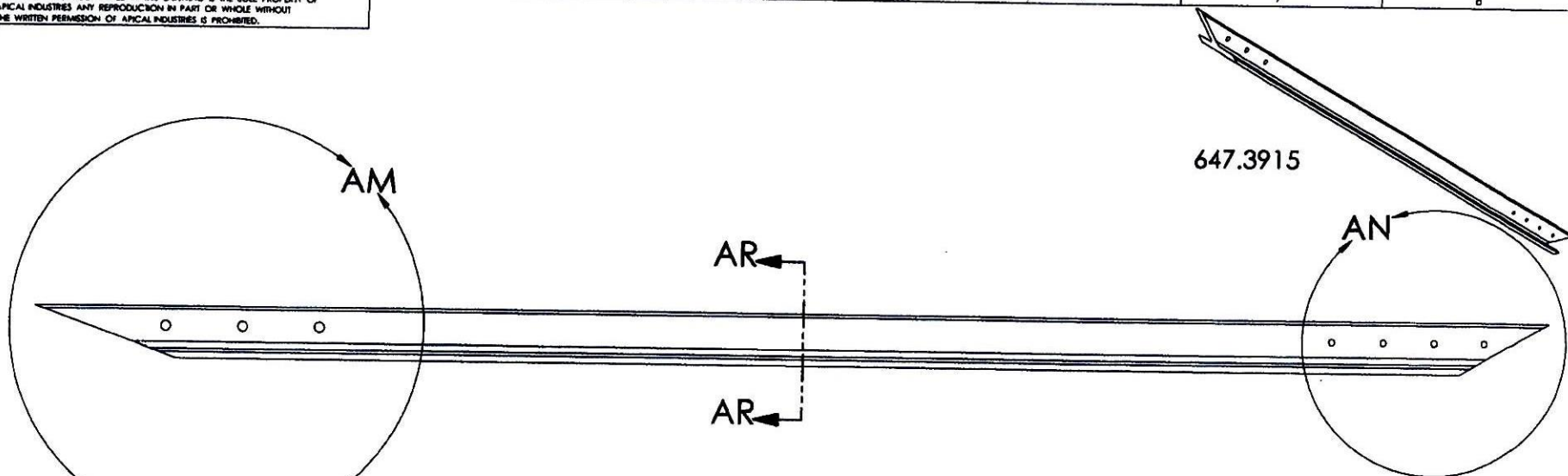
DEFLECTORS

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ARE:
2 PLACE DECIMALS ±.01
3 PLACE DECIMALS ±.005
ANGLES ±.3°

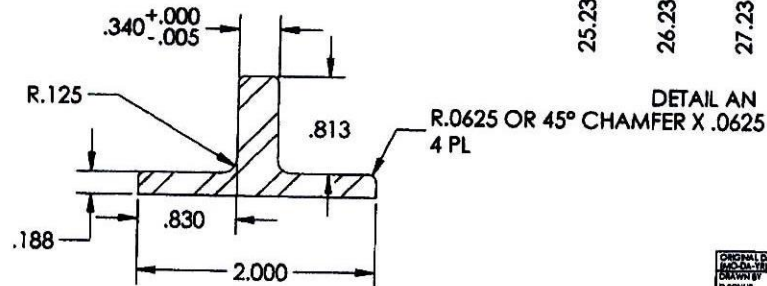
SEE CAD CODE Dwg. No. 647.3900
B 07M26 SCALE NONE SHEET 8 OF 12

ORIGINAL DATE (MO-DA-YR) 09-10-09	APICAL INDUSTRIES		
DESIGNED BY D. KIMM	2408 TEMPLE HEIGHTS DR. OCEANSIDE, CA 92056-3512 (760)724-5300		
DRAWING APPROVAL P. WATSON	DEFLECTORS		
CONTRACT NO.			
MAILED OVERSEA SPECIAL DEFLECTORS ARE IN STOCK	SEE PAGE CODE	DWG. NO.	REV.
2 PLAIN DEFLECTORS \$201	B	07MA26	647.3900
2 PLAIN DEFLECTORS \$201			C
2 PLAIN DEFLECTORS \$201	SCALE	NONE	SHEET B OF 12

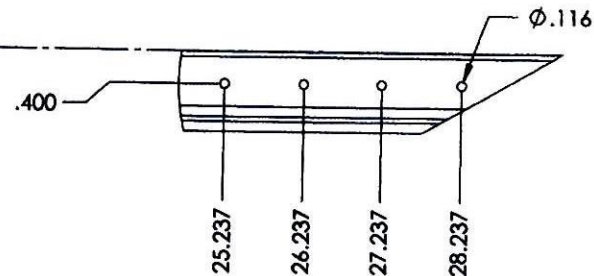
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DETAIL AM



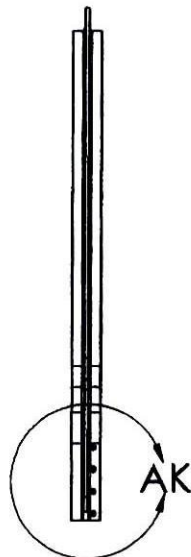
SECTION AR-AR



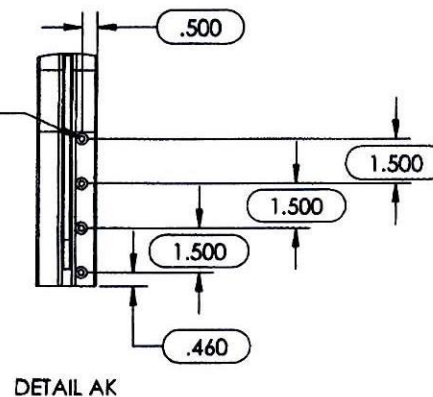
DETAIL AN

ORIGINAL DATE REV. DATE		APICAL INDUSTRIES	
DESIGNED BY		2608 TEMPLE HEIGHTS DR.	
CHECKED BY		OCEANSIDE, CA. 92056-3512 (760) 724-5300	
DRAWING APPROVAL		DEFLECTORS	
CONTRACT NO.		647.3900	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 1 PLACE DECIMALS ±.01 2 PLACE DECIMALS ±.005 ANGLES ±.5°		REV. C	SHEET 9 OF 12

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4X $\phi .196 \pm .010$ THRU ALL
 $\checkmark \phi .385 \pm .020 \times 100^\circ \pm 1.000^\circ$

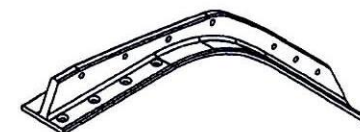


DETAIL AK

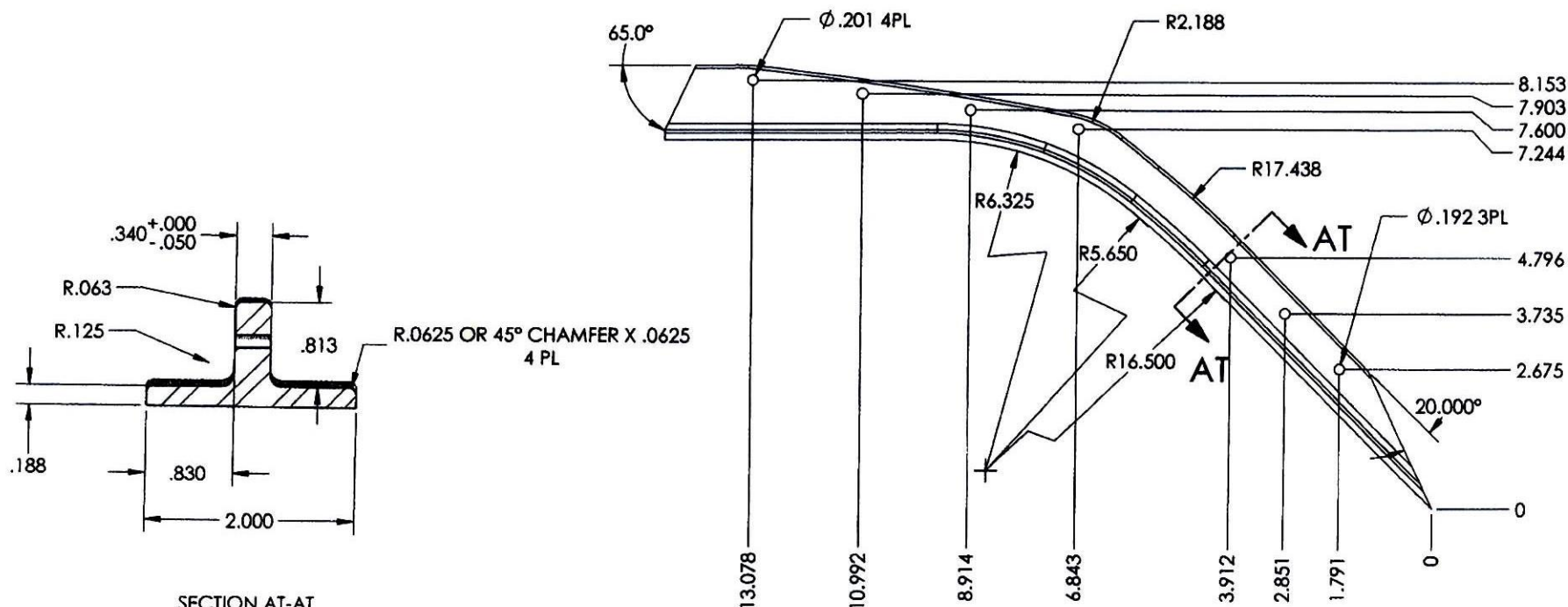
647.3915

ORIGINAL DATE 140-04-171 09-10-08		APICAL INDUSTRIES	
DRAWN BY DUCAMP		2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760) 724-5300	
DRAWING APPROVAL P. BRAVO		DEFLECTORS	
CONTRACT NO.			
SHEETS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS $\pm .01$ 3 PLACE DECIMALS $\pm .005$ ANGLES $\pm .5^\circ$		REV B	REV C
CAGE CODE 07N126		DWG. NO. 647.3900	
SCALE NONE		SHEET 10 OF 12	

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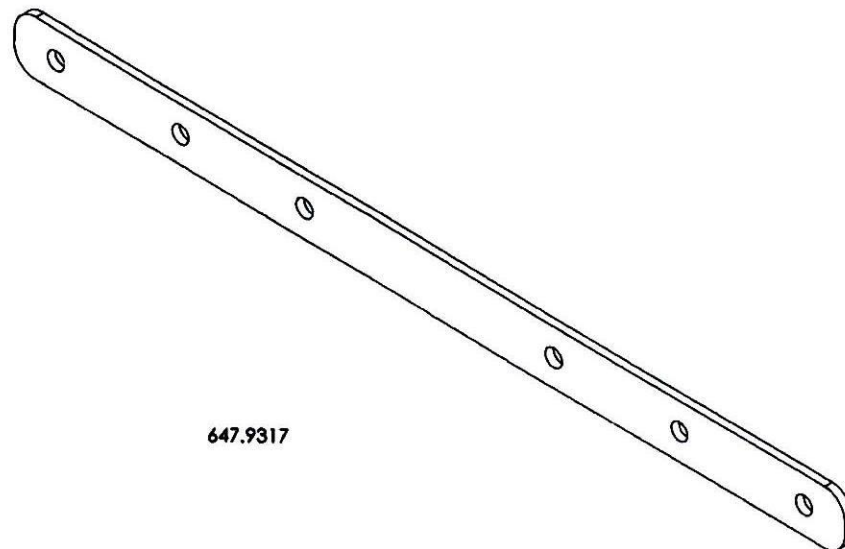


647.3916



ORIGINAL DATE		APICAL INDUSTRIES	
DRAWN BY	CHECKED	2608 TEMPLE HEIGHTS DR.	
DESIGNED BY	DATE	OCEANSIDE, CA. 92056-3512 (760)724-5300	
DRAWING APPROVAL	DATE	DEFLECTORS	
CONTRACT NO.			
UNLESS OTHERWISE SPECIFIED		SEE CAGE CODE	DWG. NO.
DIMENSIONS ARE IN INCHES		B 07M26	647.3900
TOLERANCES ARE:		SCALE NONE	REV C
2 PLACE DECIMALS ±.01			
3 PLACE DECIMALS ±.005			
ANGLES ± .5°			
			SHEET 11 OF 12

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R.250
4 PL

.625

0

.500

2.000

3.500

6.500

8.000

9.500

10.000

.090

Ø.196
6 PL

ORIGINAL DATE
REV. DATE
DESIGNED BY
D. J. CHURCH
DRAWING APPROVAL
P. A. BACUS
CHECKED BY
D. J. CHURCH

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ARE:
FRACTIONS DECIMALS .001
PLACES DECIMALS 2.000
ANGLES 2.5°

APICAL INDUSTRIES
2608 TEMPLE HEIGHTS DR.
OCEANSIDE, CA. 92056-3512 (760) 724-5300

DEFLECTORS

SER	CAGE CODE	DWG. NO.	REV
B	DFM26	647.3900	C
SCALE NONE			SHEET 12 OF 12



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER **PO040849**

Supplier: ATG001-VC
A.T.G. Industries Inc
731 INDUSTRIELLE ROAD
ROCKLAND
ON
K4K 1T2 Canada
Phone: 613-446-4544
Fax: 613-446-4556

Attention: Lalande, Marc-Andre

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

PO No: PO040849
PO Date: 8/27/18
Due Date: 9/14/18
Purchase Order
Revision:
Revision Date:
Ship-To Contact: Tsimiklis, ChrisoulaPhone:

Via: Ground
Pynt Terms: Net 30
Freight Terms:
Special Comments:

Items

Line Item	Job	Part	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
1	171198	647.3914	Breakaway Tip, Long Issue P/O to ATG :	Firmed	-	9/14/18	10 pcs	0 pcs	10 pcs	\$19.90/pcs	\$199.00
					10 X	SEP 10 2018				61	
2	176173	647.7612	Breakaway Tip Issue P/O to ATG : Hard Anodize, Color Black and Prime as Per Dwg 647.7600	Firmed	-	9/14/18	8 pcs	0 pcs	8 pcs	\$12.06/pcs	\$96.48
					8 X	SEP 10 2018					

Grand Total: \$295.48

Order Notes

Procurement Quality Clauses
A005 right of entry
A012 chemical and physical test report
A016 personnel qualification
A017 raw material identification (as applicable)

A022 Apical Processing
A024 process certifications
A026 certification of material conformance

A041 quality management system
A042 dart notification by supplier
A043 retention of quality documents

A048 counterfeit parts avoidance, detection, mitigation and disposition program

A049 supplier awareness

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

Plex 8/28/18 8:28 AM dart.tsimiklis.chrisoula



A.T.G. Industries Inc.
731 Industrielle Street
Rockland, ON K4K 1T2
Canada

Ph: (613) 446-4544

Fax: (613) 446-4556

Pack List

Number: 915984

Date: 11-Sep-18

To

Dart Aerospace Ltd
1270 Aberdeen St
Hawkesbury, ON K6A 1K7

Ship To:

Chrisoula Tsimiklis
Dart Aerospace Ltd
1270 Aberdeen St
Hawkesbury, ON K6A 1K7

Ph: 613 632-9577

Fax: 613 632-1053

Ph: 613 632-9577

Fax: 613 632-1053

Terms		Ship Via	
		ATG Delivery	
Quantity	Description		
	Please reference this document's Pack List number on all correspondences regarding this shipment. If you have any questions, please contact us.		
10 ea	Part: 647.3914 Breakaway Tip Hard Black Anodize per MIL-A-8625F, Type III, Class 2 Prime per MIL-PRF-23377, Type I, Class N (Customer Supplied) Job: 23653	Rev: C	DAS 61 Line: 9-89
8 ea	Part: 647.7612 Breakaway Tip Hard Black Anodize per MIL-A-8625F, Type III, Class 2, .0005-.0045" (.5 - 4.5mils). Prime per MIL-PRF-23377, Type I, Class N (Customer Supplied), .0001-.0002" (1 - 2 mils) per drawing. Job: 23654	Rev: NC	Line: 2
CERTIFICATE OF CONFORMANCE A.T.G Industries Inc. certifies that all items in this shipment conform to the requirements. Date: <u>11/9/18</u> Certified Signature: <u>[Signature]</u> Receiver Signature: _____ A.T.G Industries Inc. is AS9100 Registered and Nadcap Chemical Processing Accredited. Note: This Packing Slip may contain parts that have been PLATED. Items that are plated may be subject to natural tarnishing and it is suggested that they be inspected within 24 hours of receipt.			
Made in Canada.			